UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,045	05/29/2001	Brant L. Candelore	80398.P216	6733

			EXAMINER
8791	7590	01/11/2006	LAM, WAI YIP

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ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 20-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-9* is/are allowed.

6)☒ Claim(s) *20-32* is/are rejected.

7)☒ Claim(s) *1 and 23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 20 – 32 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

1.   Claims 1, 23 are objected to because of the following informalities. Appropriate correction is required.

As to claim 1, the claim recites "recording of the program data <u>of</u> the content". "the program data of the content" does not properly reflect antecedent basis to "the program data with the content". For the purpose of this examination, the examiner assumes that proper antecedent is used.

As to claim 23, the claim recites "<u>the</u> data". "the data" does not properly reflect antecedent basis to "the program data". For the purpose of this examination, the examiner assumes that proper antecedent is used.

Allowable Subject Matter

2.   Claims 1 – 9 are allowed.

The following is an examiner's statement of reasons for allowance.

As to claim 1, the examiner cites several references that are pertinent to the allowability of the present claim.

<u>U.S. Patent 6,628,891 (Vantalon et al.) in view of U.S. Patent 6,233,389 (Barton</u>

et al.)

Vantalon et al. teaches an apparatus with a conditional access unit that

receives a source of program data with content in a scrambled format (Tsin in

Figure 43), a conditional access unit (cipher processor 79 in Figure 11) that

descrambles the content from a scrambled format to a clear format, display clear

program data with content (Tsout in Figure 43) to a display (unit 13 in Figure 43)

and record a scrambled content (by way of unit 442 in Figure 43) to a recorder

(unit 446 in Figure 43).

Vantalon et al. fails to teach a switching unit that is coupled to the

conditional access unit that enables simultaneous viewing of program data with

content in a clear format and recording of the program data with the content in

the scrambled format.

Barton et al. teaches a switching unit that enables simultaneous viewing of

the program data with content and the recording of program data with content.

Barton et al. also teaches the switching unit routes data in response to

instructions from a central processing unit.

However, combining Vantalon et al. in view of Barton et al. still would not

overcome the present claim limitation.

The present claim limitation states that the switching unit routes the

program data with the scrambled format for storage can be met if the switching

unit of Barton et al. is inserted right after the in-band receiver 30 in Figure 43 of

Vantalon et al., with the input of the switching unit being program data in a

scrambled format (Tsin). However, the switching unit fails to route the program

data with the content in the clear format for viewing on a display (especially

program data with the content in a clear format from the conditional access unit

with the established antecedent). If the switching unit were to be placed after the

conditional access unit (cipher processor 79 inside unit 440 in Figure 43 of

Vantalon et al.), the switching unit fails to route program data with the content in

a scrambled format to the recording unit. Therefore, the examiner feels that

Vantalon et al. in view or Barton et al. cannot be combined with obvious

modifications to overcome the present claim.

U.S. Patent 5,799,081 (Kim et al.) in view of U.S. Patent 6,233,389 (Barton et al.)

Kim et al. teaches the viewing of program data with the content in a clear

format and the recording of the program data with the content in a scrambled

format (Figure 17A, Column 15, lines 45 - 50). Kim et al. also teaches a

conditional access unit (unit 261 in conjunction with unit 263 in Figure 24) that

de-scramble program data with the content in a scrambled format to a clear

format.

Kim et al. fails to teach a switching unit that enables simultaneous viewing

of the program data with the content in the clear format and recording of the

program data with the content in the scrambled format.

Barton et al. teaches a switching unit that enables simultaneous viewing of

the program data with content and the recording of program data with content.

Barton et al. also teaches the switching unit routes data in response to instructions from a central processing unit.

However, combining Kim et al. in view of with Barton et al. still would not overcome the present claim limitation.

The switching unit of Barton et al. can potentially modify the system of Kim et al. to provide simultaneous viewing of the program data with content and the recording of program data with content.

However, the present claim limitation also states that the switching unit must route "the program data with content in a clear format" for viewing, which establishes antecedent basis to "program data with the content in a clear format" from the conditional access unit as set in the previous limitation. Therefore, the switching unit must take the output of the conditional access unit that output program data in a clear format (de-scrambler 263 in Figure 24 of Kim et al.) as input in order to satisfy the "routing the program data with content in a clear format" requirement.

However, by placing the switch logically after the conditional access unit that output program data in a clear format, the switching unit fails to route the program data with the content in the scrambled format for storage. Therefore, the examiner feels that Kim et al. cannot be obviously modified with Barton et al. to overcome all the present claim limitations.

U.S. Patent 6,442,328 (Elliott et al.)

Elliott et al. teaches a source of program data with the content in a

scrambled format and a conditional access unit that descrambles the program

data with the content from a scrambled format to a clear format. As seen in

Figure 3 and Column 7, lines 50 – 61), descrambler 115 can selectively

descramble program data with the content. Therefore, a source of scrambled

content is provided and a conditional access unit that descrambles the content is

provided. Elliott et al. also teaches a switching unit (Unit 130 in conjunction with

Unit 150 in Figure 3) that is coupled to the conditional access unit. Elliott et al.

further teaches enabling simultaneous viewing of program data in a clear format

(after descrambling) and recording of program data in a scrambled format (after

DTCP encryption (Column 8, lines 35 – 33).

However, the configuration of Elliott et al. fails to cover the present claim

limitations. Although Elliott et al. teaches the simultaneous viewing of content in

a clear format and recording content in a scrambled format, Elliott et al. fails to

teach the recording of content in a scrambled format as the same scrambled

format as the source of program data including the content in a scrambled

format.

The main reason Elliott et al. fails to teach the current limitation is beacuse

antecedent basis for "program data with content in a scrambled format" is

established by the source of program data with the content in a scrambled

format.

In order to satisfy the current claim, the conditional access unit must be

able to output a signal in the scrambled format from the source and the same

signal in the clear format. Elliott et al. teaches that the descrambler outputs

either a scrambled signal or a clear signal. Elliott et al. further teaches that the

switching device (unit 130 in Figure 3) re-scrambles the signal using DTCP so

that illegal copies of the program cannot be made (Column 6, lines 41 – 50).

Therefore, the conditional unit fails to generate both a signal in the scrambled

format from the source and the same signal in the clear format because the

scrambled signal generated by unit 130 differs from the scrambled signal from

the source of Elliott et al.

As to claims 2 – 9, these claims are allowed because they are dependent

on claim 1.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

3.   Claims 23, 25, 26, 27, 29, 30 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent 6,442,328 (Elliott et al.).

As to claim 23, Elliott et al. teaches a method for managing program data

(unit 102 in Figure 2) comprising transmitting the program data to a switch (unit

130 and unit 150) (Column 5, lines 39 – 43).

Elliott et al. also teaches selecting the switch (by way of microprocessor

140 in Figure 2) to transmit data to a de-multiplexing unit (unit 120 in Figure 2)

(Column 5, lines 45 – 51) and to an encoding unit (unit 200 in Figure 2)(Column

6, lines 6 – 16) to provide simultaneous viewing and recording of the data

(Column 6, line 6, note that the two operations are done concurrently).

As to claim 25, see rejection of claim 23 and note that Elliott et al. also

teaches wherein the selecting is done by a central processing unit

(microprocessor 140 in Figure 2)(Column 5, lines 39 – 43).

As to claim 26, see rejection of claim 23 and note that Elliott et al. also

teaches wherein the program data is transmitted from a demodulating unit (unit

113 in Figure 2)(Column 5, lines 25 – 43).

As to claim 27, Elliott et al. teaches an apparatus for managing program

data (Figure 2) comprising means for transmitting program data to a switch (unit

130 and unit 150 in Figure 2). Elliott et al. teaches that program data are routed

from the demodulator unit to the conditional access unit to the switch (Column 5, lines 23 – 32, 40 – 43).

Elliott et al. also teaches means for selecting the switch (by commands of the microprocessor 140) to transmit program data (unit 102 in Figure 2) to a de-multiplexing unit (unit 120 in Figure 2) to facilitate a display of the program data (Column 5, lines 45 – 51). Elliott et al. also teaches the selecting the switch to transmit program data to an encoding unit (unit 200 in Figure 2) to facilitate a recording of the descrambled program data (Column 6, lines 6 – 16). Note that Elliott et al. is mute on the functions of the conditional access unit. Therefore, signals that pass through the conditional unit are descrambled signals since they are also routed to the display.

As to claim 29, see rejection of claim 27 and note that Elliott et al. also teaches wherein the means for selecting the switch (by way of microprocessor 140 as discussed in claim 27) to transmit the program data to the de-multiplexing unit to facilitate a display of the program data (Column 5, lines 45 – 51) when the means for transmitting (program data to a switch as referred to claim 27) is the conditional access unit. Elliott et al. teaches that program data (unit 102) is routed from the conditional access unit to the switching unit (unit 150 in Figure 2) (Column 5, lines 46 – 51). Therefore, the present claim limitation is met.

As to claim 30, see rejection of claim 27 and note that Elliott et al. also teaches wherein the means for selecting the switch (by way of microprocessor 140 as discussed in claim 27) to transmit the program data to an encoding unit

(unit 200 in Figure 2) to facilitate a recording of the descrambled program data

(Column 6, lines 6 – 16). Elliott et al. teaches that program data (unit 102) is

routed from the conditional access unit to the switching unit (unit 130 in Figure 2),

and then to an encoding unit (unit 200 in Figure 2) (Column 5, lines 6 – 16).

Therefore, the present claim limitation is met.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 20, 24, 28, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Patent 6,442,328 (Elliott et al.) in view of U.S. Patent 6,628,891 (Vantalon et al.).

As to claim 20, Elliott et al. teaches a program viewing unit (Figure 2),

comprising a CPU (Unit 140), a demodulator unit (Unit 113), a conditional access

unit (Unit 114), a de-multiplexing unit (Unit 122), an encoding unit (Unit 200).

Elliott et al. also teaches the program viewing unit comprises a switching

unit (Unit 130 in conjunction with unit 150) coupled to the CPU, demodulator unit,

conditional access unit, de-multiplexer unit, and the encoding unit (as shown in

Figure 2), that is programmable by the CPU to route data between the

demodulator unit, the conditional access unit, the de-multiplexer unit, and the

encoding unit in order to allow simultaneous viewing of descrambled program

data and recording of scrambled program data. Elliott et al. teaches that the

switching unit (unit 130 in conjunction with unit 150 in Figure 2) is controlled by

CPU 140 to route data between the components in order to allow viewing of

content and recording of content (Column 6, lines 5, lines 36 – 42). Elliott et al.

further teaches that the display and the recording are done concurrently (Column

6, lines 1 – 16). Elliott et al. further teaches that the unit 210 is able to encrypt

the real time video signal (program data) to prevent illegal sharing and copying

(Column 6, lines 30 – 40). Therefore, the switching unit routes program data

(real time video signals) between the aforementioned components in order to

allow simultaneous viewing of descrambled program and recording of encrypted

program data.

Elliott et al. fails to teach recording of program data in a scrambled format.

However, Vantalon et al. teaches a private recording system (Figure 43)

which is responsive to supply a clear copy of a video signal to a scrambler which

scrambles the signal in accordance to a private cipher key (Column 17, lines 34 –

37). Therefore, scrambler 444 of Vantalon et al. can be inserted into the program

viewing unit of Elliott et al. between the switching unit (unit 130 and unit 150) and

encoding unit 200.

At the time the invention was made, it would have been obvious to a

person of ordinary skill in the art, to modify the encryption device of Elliott et al.,

using the scrambler of Vantalon et al., for the purpose of enabling a single user

or machine (having knowledge of the cipher key) to play back the recorded content (Column 18, lines 19 – 44), thereby preventing unauthorized copying and viewing of the program data with machines that does not have a knowledge of the private cipher key.

As to claim 24, see rejection of claim 23 for the corresponding limitations. As discussed in claim 20, by introducing the scrambler of Vantalon et al. as a modification to the system of Elliott et al., the switching unit effectively transmits data to a re-scrambler (as modified by Vantalon et al., discussed in claim 20).

As to claim 28, Elliott et al. teaches a machine readable medium having stored thereon instructions, which when executed by a processor (microprocessor 140 in Figure 2), causes said processor to transmit program data to a switch (Column 5, lines 46 – 51, Column 6, lines 6 – 16 as discussed in claim 27). Note that Elliott et al. teaches the microprocessor 140 commands the switch to route video signals around the system as discussed in claim 27. Therefore, it is inherent that some form of memory readable by this machine (program viewing unit as shown in Figure 2) is holding instructions that the processor can execute in order for any operations to occur in the system. Therefore, the present claim limitation is met.

By introducing the scrambler of Vantalon et al. as a modification to the system of Elliott et al. as discussed in claim 20, the claim limitation of selecting the switch to transmit program data in response to instructions executed by the CPU (microprocessor 140 in Figure 2) to a de-multiplexing (unit 120 in Figure 2)

unit and an encoding unit (unit 200 in Figure 2) to allow viewing of de-scrambled

program data and recording of scrambled program data concurrently (Column 5,

lines 46 – 51, Column 6, lines 6 – 16) is also met.

As to claim 32, see rejection of claim 28 and note that Elliott et al. also

teaches wherein the switching unit is further programmable to route the de-

scrambled program data from a conditional access unit (unit 114 in Figure 2) to

the de-multiplexer unit (unit 120 in Figure 2) for display (as discussed in claim 29)

and to the encoding unit (unit 200 in Figure 2) for digital recording of the

scrambled data. Elliott et al. teaches the digital recording of the de-scrambled

data as discussed in claim 30. By introducing the scrambler of Vantalon et al. as

a modification to the system of Elliott et al. as discussed in claim 20, the

encoding unit (unit 200 in Figure 2) effectively records a scrambled version of the

program data.

5.   Claims 21, 22, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Patent 6,442,328 (Elliott et al.) in view of U.S. Patent 6,628,891 (Vantalon et al.) as

applied to claim 20, in further view of U.S. Patent 6,175,577 (Van Den Heuvel).

As to claim 21, see rejection of claim 20 and note that Elliott et al. modified

by Vantalon et al. teaches that the program viewing unit of Elliott et al. (Figure 2)

comprises a scrambler unit (re-scrambler). By the configuration as discussed in

claim 20, the scrambler is coupled to the switching unit. Elliott et al. further

teaches incoming broadcast signal 102 can be non-accessible scrambled channels (Column 7, lines 50 – 60).

Elliott et al. fails to teach the program viewing unit also comprises a descrambler that is couple to the switching unit.

However, Van Den Heuvel teaches a descrambler inside the conditional access unit that descrambles incoming scrambled signals by using a smart card with variable control words. By modifying the conditional access unit 114 of Elliott et al. with the conditional access unit and smart card of Van Den Heuvel, the program viewing unit of Elliott et al. would have a descrambler inside the conditional access unit that is coupled to the switching unit (unit 130 and unit 150 in Figure 2). Therefore, the present claim limitation is met.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the conditional access unit of Elliott et al., using the descrambler with variable control words from a smart card of Van Den Heuvel, for the purpose of increasing difficulty to gain unauthorized access to a program (Column 7, lines 46 – 47).

As to claim 22, see rejection of claim 20 for the corresponding limitations. As discussed in claim 21, Van Den Heuvel introduces a descrambler into the conditional access unit of Elliott et al. Furthermore, the descrambler in the conditional access unit processes a scrambled incoming video signal and outputs a clear video signal by using control words from a smart card. The descrambler

is a processor of the video signal. Therefore, the claim limitation is met because the conditional access unit comprises a processor that is a descrambler.

As to claim 31, see rejection of claim 20 for the corresponding limitations and note that Elliott et al. also teaches wherein the switching unit is programmable to route the descrambled program data from the conditional access unit (Unit 114 in Figure 2) to the de-multiplexer unit (Unit 122 in Figure 2) for display and to the encoding unit (Unit 200 in Figure 2) for digital recording of the scrambled program data. Referring to claim 22, a descrambler that descrambles program data is introduced into the conditional access unit of Elliott et al. Elliott et al. further teaches microprocessor 40 commands the multiplexer 150 (part of switching unit) to transmit the real-time video signal (program data) form the conditional access unit to the video output interface 120 (de-multiplexing unit)(Column 5, lines 45 – 51). Elliott et al. also teaches that real-time video signal is also transmitted to the auxiliary interface 130 (part of switching unit). Under the command of the microprocessor unit 140, the switching unit (unit 130 in Figure 2) transmits the real-time video signal to the recorder interface of the digital recorder for recording (Column 6, lines 6 – 16). By the modifications made by the scrambler of Vantalon et al. as discussed in claim 21, the video signal is scrambled before it is transmitted from the switching unit (unit 130 in Figure 2) to the recorder interface. Therefore, the switching unit (unit 130 and unit 150 in Figure 2) is programmable to route descrambled program data from the

conditional access unit to the de-multiplexer unit for display and to the encoding

unit (unit 200 in Figure 2) for digital recording of the scrambled program data.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Wai Lam whose telephone number is (571) 272-2827.

The examiner can normally be reached on Monday - Friday 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JOHN MILLER
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